

Abstract

Geothermal energy is a perspective renewable source of energy. Its usage is undergoing vast development, focused especially on geothermal heat pumps and Enhanced Geothermal Systems. Basic information on the sources of Earth's heat, geological conditions and other factors influencing how geothermal energy may be exploited and processed, is presented in this paper. Various scientific papers and information resources of relevant companies have been investigated in order to obtain data on the usage of geothermal energy, focusing mainly on different types of thermal environment.

One of the chief aims of this work was to provide examples of significant geothermal fields worldwide (Italy, New Zealand, USA, Philippines, Iceland, France), including specific information on each of the sites. In addition, the possibility of the use of geothermal energy in the Czech Republic has been discussed, based on the current knowledge of heat-flow density throughout the territory of the Czech Republic. As for this country, district heating in Děčín and a geothermal project in Litoměřice have been mentioned as examples.

Keywords: geothermal energy, geothermal power plant, geothermal field